

## NEW SPECIES OF LEPIDOPTERA.

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NOCTUIDÆ.

Agrotinæ.

**Euxoa scholastica**, sp. nov.

Male antennæ shortly serrate and fasciculate. Palpi, head, thorax and primaries brown, more or less suffused with pale ochreous, especially the palpi, head, bases of tegulæ and patagia and basal portion of primaries: a partial black line across the front and a better defined one crossing the middle section of the collar. Maculation of primaries very similar to that of *messoria* Harr. but better defined; basal and t. a. lines black, geminate, filled with ochreous, the latter upright, consisting of five scallops: orbicular an even, small oval, outlined with black and filled with ochreous: reniform edged with pale ochreous, especially prominent on outer margin, and filled with a shade corresponding to general colour of wing; median shade fairly distinct, bent outward along lower edge of reniform and then parallel to t. p. line; t. p. line dentate, geminate, black, inner line most prominent, ochreous filled, scarcely bent in below cell; s. t. line irregular, pale, defined inwardly by dark shades; a broken dark terminal border. Secondaries in both sexes smoky brown, slightly paler in basal half with distinct discal dot. Beneath primaries smoky, paler ochreous along costal and inner margins, with traces of postmedian line, well marked on costa, and a small discal dot; fringes concolorous; secondaries whitish, sprinkled with smoky along costa with broad bent postmedian line and dark discal dot, fringes pale, terminal broken dark line on both wings. Expanse 35 mm.

Holotype—1 ♂, Meach Lake, Que., July 24, (C. H. Young) in National Collection, Ottawa.

Allotype—1 ♀, Ottawa, Ont., Aug., 1904, (A. Gibson) in National Collection, Ottawa.

Paratype—1 ♂, Trenton, Ont., July 25, (J. D. Evans) in National Collection, Ottawa.

The species has been generally confused with *messoria* but may be most readily separated by the darker colour of the secondaries and the evenly oval, pale filled orbicular. The ♂ genitalia of the two species, of which figures are given, are closely related; in *messoria* however there is a certain amount of asymmetry between the bifid harpes, the outer branch of the left side being distinctly shorter and chunkier than the corresponding one on the right side; in the new species these are longer and subequal. The inner branch of the harpe in *messoria* is smooth with a few stray bristles whilst in *scholastica* the distal half is thickly covered with a clothing of fine short hairs. The most marked difference is in the aedeagus as may be seen by a reference to the figures. The species appears to be widespread in the east but rather rare; specimens from New Brighton, Pa., are in the Barnes Collection and were

separated out several years ago, but not described as the material was scanty and not in the best of condition. The exact position of the species is doubtful, and it may be that it fits in better in the *pestula* group than with *messoria*.

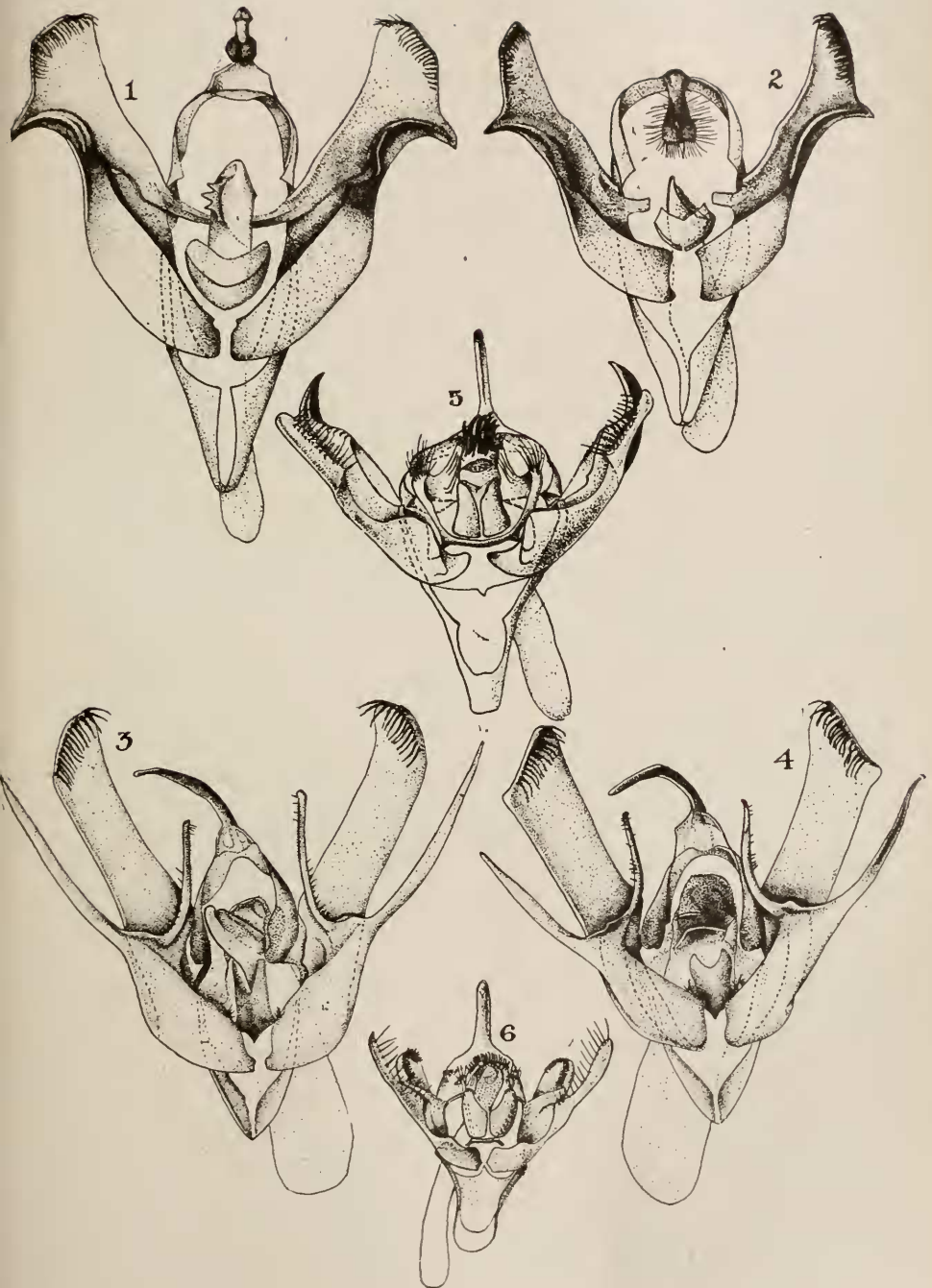
Cucullinæ.

**Feralia columbiana**, Sm.

This species was described (1903, Can. Ent., XXXV, 9) from two males, one from New Westminster, B.C., (Fletcher), the other labelled North West Territories from Dr. R. Ottolengui. The first mentioned specimen, which is in the collection of the U. S. National Museum, must be considered to be the type. It was originally associated by Dr. Smith with *comstocki* Grt., and has the same type of secondaries with pale shadings at base and along outer margin. On this account, after an examination of the type, it was listed in the Barnes and McDunnough Check List as a race of *comstocki*, although it may quite probably prove to be a good species. The cotype from the Ottolengui collection recently came into the possession of Dr. Wm. Barnes, of Decatur, Ill., and at the time struck me as being distinct specifically from *columbiana* as typified by the Washington specimen; the almost entirely dark secondaries pointing, to my mind, to a close relation with *jocosa* Gn. Specimens of both forms exist in the Ottawa collection, and I have prepared slides of the male genitalia and find my suspicions that two species were involved verified. The following description of the new species is therefore offered.

**Feralia deceptiva**, sp. nov.

Male antennæ orange; palpi deep black; front pale greenish, shaded at vertex with black; thoracic vestiture pale green marked with black at base of tegulæ and along upper margin of patagiæ; two anterior and two posterior black patches on mesothorax; a black patch on lower edge of patagiæ; metathorax with black tufts; abdomen blackish with apical segment tufted with ochreous; pectus and venter black; legs with femur covered with long greenish hairs; tibiæ black, spotted with green and with green hair tufts along outer margin. Primaries blue-green, similar in shade to *jocosa*, crossed by heavy black lines which are white-bordered; costa and cubitus to end of cell white; basal line black, edged inwardly by white, more or less joined to t. a. line along costa and inner margin, enclosing an irregular, green, kidney-shaped patch; t. a. line heavy, black, bordered outwardly with white, with strong outward scallop below cubitus, bent back to near base of wing at inner margin; median shade black, touching outer edge of orbicular, then bent back to near t. a. line and forming an outward tooth on anal vein; orbicular oval, edged with black, then with white and filled with green; below it an indistinct wedge-shaped mark indicates the claviform; reniform broad, open above and below, laterally outlined with black and white, with two black streaks extending from apex and base of outer margin half-way to t. p. line; above reniform on costa three black dots separated by white; t.p. line arising from a diffuse black costal shade, strongly bent inwards, and dentate below cell, black, bordered inwardly with white, joined to anal angle by an oblique black streak; small terminal row of black dots; fringes checkered black and white. Secondaries almost wholly black-brown with



Male genitalia of (1) *Feralia columbiana* Sm.; (2) *F. deceptiva* McD.; (3) *Euxoa scholastica* McD.; (4) *E. missoria* Harr.; (5) *Orthonama evansi* McD.; (6) *O. obstipata* Fabr.

faint pale shading at anal angle. Beneath black-brown shaded with pale greenish with an even broad, green, marginal band on primaries and a narrower irregular one on secondaries: primaries with traces of the dark lines of upper side: secondaries with large discal dot and faint median and postmedian lines; fringes as above. Expanse 42 mm.

Holotype—1 ♂, Vancouver, B.C., April 22, (Bush) in National Collection, Ottawa.

Paratype—1 ♂, Vancouver, B.C., April 16, in same collection.

Genitally *deceptiva* is so close to the eastern *jocosa* as to almost warrant it being treated as a geographical race; on account of certain small differences in the uncus, combined with the much greater size of the insect I treat it for the present as distinct.

The species is more robust than *columbiana* and lacks the suffused dark and pale shades in the subterminal area, the secondaries are also, as already mentioned, much deeper in colour. The genitalia of the two species are of the same general type, but the armature of the aedoeagus at once separates them. I doubt whether the generic term *Momophana*, proposed for *comstocki* will hold as distinct from *Feralia*: the separation was made by Grote on the size of the eyes, but this appears to vary in individual specimens of a single species: at all events *columbiana* seems not out of place in *Feralia* on genitalic characters. I have, however, at the present time no males of *comstocki* for examination and must, therefore, leave the question of its generic position, as well as its relation to *columbiana*, open.

#### GEOMETRIDÆ.

##### Larentiinae.

#### *Orthonama evansi*, sp. nov.

Male antennæ rather lengthily ciliate; palpi, head and thorax light ochreous sprinkled with rusty brown: abdomen ochreous with a double dorsal row of black dots. Primaries light ochreous with veins outlined in rusty brown, especially prominent in subterminal area: a broad band of purplish gray crosses the middle of the wing, broadest at costa, where it is bent somewhat outward; the inner edge is formed by an upright brown line, the outer edge is bordered by a similar line, strongly outcurved at costa and then somewhat inwardly oblique and very faintly crenulate to inner margin: a discal spot surrounded by a somewhat paler shade is situated near the inner edge. Between this median band and the base of wing are some half-dozen waved rusty-brown upright lines, the most prominent, representing the t. a. line, being geminate, white-filled and with strong outward tooth below cubitus. Beyond the median band the pale subterminal area is crossed by two crenulate brown lines, arising from a diffuse costal shade of similar colour and in course parallel to the outer margin of the band; t. p. line geminate, inner line deep brown, outer lighter, white-filled, crenulate, parallel to the preceding lines, followed by a rusty-brown shade, most conspicuous opposite cell, this shade being bordered outwardly by a crenulate brown s. t. line: terminal space shaded with light-gray with geminate black terminal points and a dark brown oblique apical dash extending from apex of wing to the brown subterminal shade. Secondaries pale with

distinct bent, smoky, median line preceded by small discal dot; a crenulate geminate t. p. line. Fringes on both wings rusty-brown in basal half, paler outwardly. Beneath pale with distinct discal dots on all wings and the extra-cellular maculation of the upper side repeated very distinctly, the median band being however absent. Expanse 20 mm.

Holotype—1 ♂, Trenton, Ont., June 22, (J. D. Evans) in National Collection, Ottawa.

Allotype—1 ♀, Trenton, Ont., June 15, (J. D. Evans) in National Collection, Ottawa.

Paratypes—1 ♂ Hull, Que., June 20, and 1 ♀, Trenton, Ont., Aug. 3, (Evans) in the same collection.

The species has been probably confused in collections with *obstipata* Fabr., but can be distinguished by the similarity of colour in the two sexes and by the well-defined brown veining in the subterminal area. The genitalia (which are figured) are quite distinct from those of *obstipata*. I take pleasure in naming the species after the collector, Mr. J. D. Evans, one of the pioneer entomologists of this country, whose collection is now incorporated in the Canadian National Collection.

#### Geometrinae.

#### *Melanophia centralis*, sp. nov.

Very similar to *imitata* Wlk. in colour and maculation but differing obviously in ♂ genitalia. Primaries heavily sprinkled and shaded with purplish-brown over a pale ochreous base. T. a. line deep purple brown, single, with two prominent outward bulges, one in the cell, the other below cubital vein: median line similar in colour, upright, arising from small costal blotch and with rather prominent outward angle on cubitus; t. p. line indistinctly geminate, strongly scalloped, the points resting on the veins, bent in below the cell and approached to median line on inner margin, bordered outwardly by faint pale line beyond which is diffuse dark shading; small discal dot; s. t. line faint, composed of series of dark dots, subparallel to outer margin, preceded by faint pale shades, most prominent opposite cell and at inner margin: terminal area with faint dark shade opposite cell; terminal series of black points: fringes concolorous. Secondaries paler with traces of curved median and t. p. lines and distinct subterminal row of dots. Beneath pale silky grey with minute discal dots on all wings: costa of primaries and line at base of fringes slightly ochreous. Expanse 40 mm.

Holotype—1 ♂, Jemez Spgs. N.M., (Apr. 8-15) in Coll. Barnes.

Paratypes—6 ♂'s, 1 ♀, Glenwood Spgs., Colo., (May) in Coll. Barnes and in National Collection, Ottawa.

The most readily recognizable structural difference between the present species and *imitata* Wlk. is found in the male genitalia: in the latter species what may be provisionally termed the harpe is composed of a heavy bunch of subequal spines situated at the apex of the sacculus; this is modified in our new species to one very long stout spine with a few small ones gathered around its base. In connection with a study of the North American Boarmiids I hope to publish at a later date figures of the genitalia of this and allied species.